IN THE CLAIMS

Please cancel claims 1-49 and amend the claims as follows:

1-49. (cancelled)

50. (New) A method for detecting and classifying anomalies of a surface of a sample of a material suitable for use as a substrate for storage, display or electronic devices, comprising:

supplying radiation to an area of the surface;

detecting radiation from the anomalies associated with the area of the surface to provide an output corresponding to the area by means of a detector; and

analyzing the detector output for anomalies and classifying the anomalies;

wherein the analyzing uses more than one threshold to analyze the detector output and to arrive at least one classification of the anomalies.

51. (New) The method of claim 50, said analyzing and classifying comprising processing the output with a first threshold, and classifying the anomalies in a first classification and analyzing the output with a second threshold different from the first threshold.

52. (New) The method of claim 51, said classifying including applying algorithm(s) to test relationship between anomalies, if any, wherein the output is analyzed with a second threshold without applying the algorithm(s) to test relationship between anomalies.

53. (New) The method of claim 52, said analyzing and classifying comprising using the first classification and the output analyzed with a second threshold to characterize anomalies in the output analyzed with a second threshold.

54. (New) The method of claim 50, said analyzing and classifying comprising characterizing anomalies in the at least one classification as elongated anomalies, area anomalies or point anomalies.

55. (New) The method of claim 54, wherein the elongated anomalies include macroscratches and-microscratches.

56. (New) The method of claim 51, wherein the first threshold is lower than the second threshold, wherein one or more anomalies are classified as scratches when they are classified as scratches at the first threshold whether or not they are classified as scratches at the second threshold.

57. (New) The method of claim 50, wherein the analyzing is performed by means of a processing system and wherein a first threshold used in analyzing anomalies is the lowest practical threshold of the system.

58. (New) The method of claim 51, further comprising displaying only anomalies of sizes that result in detector outputs that exceed the second threshold.

59. (New) The method of claim 50, further comprising displaying only anomalies of sizes that exceed a predetermined value.

60. (New) The method of claim 50, wherein said classifying classifies the anomalies by means of their distribution over the surface.

61. (New) The method of claim 60, wherein said classifying classifies the anomalies detected into two or more of the following three categories: elongated group of anomalies, area group of anomalies or point group of anomalies.

62. (New) The method of claim 61, wherein the elongated group of anomalies comprise macroscratches and microscratches.

63. (New) The method of claim 60, wherein said classifying comprises determining distances between the anomalies detected and grouping into groups the anomalies detected that are within a predetermined distance from one another.

64. (New) The method of claim 63, wherein said classifying classifies the anomalies detected by grouping anomalies into a group only when the number of anomalies in the group exceeds a preset value.

65. (New) The method of claim 63, wherein said determining also determines length and width of a boundary on the surface enclosing at least one group of anomalies detected, and said classifying classifies the anomalies in said at least one group as those forming an elongated group when ratio of the length to the width of the boundary exceeds a preset value, and classifies the anomalies in said at least one group as those forming an area group when ratio of the length to the width of the boundary does not exceed a preset value.

66. (New) The method of claim 65, wherein said classifying classifies the anomalies in an elongated group as those forming a microscratch when the length of the boundary is greater than a preset value.

67. (New) The method of claim 60, wherein said classifying classifies the anomalies in a group as point group of anomalies when the number of anomalies in the group does not exceed a preset value.

68. (New) The method of claim 50, wherein said supplying comprises directing a beam of radiation along a direction to the surface.

69. (New) The method of claim 68, wherein said detecting detects radiation scattered by the anomalies.

70. (New) The method of claim 69, wherein said detecting detects radiation scattered by the anomalies along a direction away from a specular reflection direction of the beam by the surface.

71. (New) The method of claim 50, further comprising controlling a sample processing parameter in response to the at least one classification.

72. (New) A method for detecting and classifying anomalies of a surface of a sample of a material suitable for use as a substrate for storage, display or electronic devices, comprising:

supplying radiation to an area of the surface;

detecting radiation from the anomalies associated with the area of the surface to provide an output corresponding to the area by means of a detector;

analyzing the detector output for anomalies and classifying the anomalies; and

providing classification information concerning classification of anomalies of the surface;

wherein the analyzing and classifying analyzes the detector output and uses the classification information to arrive at at least one classification of the anomalies.

73. (New) The method of claim 72, said providing comprising processing the detector output with a first threshold, and classifying the anomalies in a first classification, and said analyzing and classifying analyzing the output with a second threshold different from the first threshold.

74. (New) The method of claim 73, said providing including applying algorithm(s) to test relationship between the anomalies, if any, wherein said analyzing and classifying analyze the detector output with a second threshold without applying the algorithm(s) to test relationship between anomalies.

75. (New) The method of claim 74, said analyzing and classifying comprising using the first classification and the output analyzed with a second threshold to characterize anomalies in the detector output analyzed with a second threshold.